DEPARTMENT OF NOTES, REVIEWS, ETC.

It is the purpose, in this department, to present from time to time brief original notes, both of methods of work and of results, by members of the Society. All members are invited to submit such items. In the absence of these there will be given a few brief abstracts of recent work of more general interest to students and teachers. There will be no attempt to make these abstracts exhaustive. They will illustrate progress without attempting to define it, and will thus give to the teacher current illustrations, and to the isolated student suggestions of suitable fields of investigation.—[Editor.]

MESOSTOMUM EHRENBERGII

The specimen in question was found in one of the fresh-water aquaria in the Zoological Laboratory. The water in which the animal was discovered (January 6th) was obtained during October of the previous fall from a series of spring-fed pools at Spring Grove Cemetery, and constituted the water of a balanced aquarium.

The individual, easily examined under the low power (87 diam.) of the microscope, appears to be something entirely new in this locality and as far as can be found has not been recorded for this country at all. The general structure is quite similar to that shown in a diagrammatic sketch of *Mesostomum ehrenbergii* (Cerst) given by Leuckart in his Zoologische Mandtafeln, XXVIII; furthermore, in the specific details of the nervous and reproductive systems it corresponds with this same form as described by Graff (quoted by Ed. Perrier in his "Traité de Zoologie"). Since but one specimen has been found, the writer has refrained from drawing any conclusions regarding the exact systematic position of the form, but will describe it rather fully in the hope that the report may lead to the discovery of other specimens.*

The worm (Fig. 1) is irregularly oval, flattened dorso-ventrally and measures six mm. long by four mm. wide. The head end is well marked off as a fairly pointed lobe (Fig. 1, h.) which is usually extended and which continually feels about in a characteristic testing manner.

To the naked eye the body appears somewhat yellowish in color, but under the microscope the entire ground substance is colorless and perfectly translucent. Throughout the dermal layers, however, are numerous granules (Fig. 1, g.) of yellowish color,

*The writer would be greatly indebted to anyone who might be able to offer him any information either regarding literature on the form here described or as to where he can obtain more material.

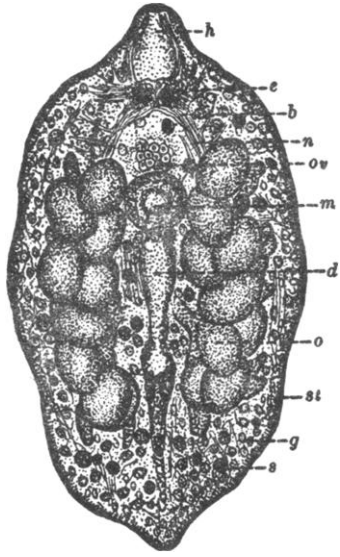

Fig. 1

which, together with scattered spherules (Fig. 1, s.) of larger size and brownish color, give the animal the yellowish appearance mentioned above. Besides these, there are also scattered throughout the outer layers great numbers of fine rod-like structures which are very similar to the rhabditi of Planarians. As seen on the dorsal surface, these rods appear like little irregular projecting spines, while along the margins they are close set and perpendicular to the surface, giving to this region a striated appearance (Fig. 1, st.).

Occasionally distinct longitudinal markings can be observed which represent a part of the muscular system.

The entire margin of the body, as well as the ventral surface, is covered with a dense layer of cilia, of which those about the head are markedly longer than the others. The animal appears to use these cilia somewhat in locomotion, but for the most part movement from place to place is the result of vigorous muscular contraction which results in a sort of undulatory progressive motion.

Slightly anterior to the middle of the body on the ventral surface is a large sucker-like structure. Careful manipulation of the

microscope discloses only the fact that the outer part of this organ is very muscular and the inner central area is in all probability a definite mouth opening (Fig. 1, m.). Leading back from this mouth cavity is a narrow rod-like digestive tract (Fig. 1, d.) such as is characteristic of Rhabodocoelida. It extends nearly to the posterior end of the body and shows no signs of lateral branches.

Near the median line of the body and just back of the head-lobe is a well-defined brain (Fig. 1, b.). It is typically two-lobed. Leading out from its anterior and lateral surfaces are numerous clearly visible fibres which are distributed to the body wall of the head region. Besides these general fibers there may also be seen two clumps of nerves which go directly to the anterior tip of the tactile head-lobe. Passing posteriorly from the two brain lobes are the two main nerve trunks (Fig. 1, n.). They are visible for some distance and give off numerous branches toward the periphery. Resting directly above the brain are the eyes (Fig. 1, e.), which appear as two large irregular black pigment spots.

The most visible feature about the worm when it was first found was the large mass of almost black ova (Fig. 1, o.) arranged in two irregularly parallel rows, one on either side of the digestive system and extending over considerably more than the middle half of the body. These ova were of large size, regularly oval, and entirely opaque. They were eighteen in number (nine on a side) when the animal was found, but soon all but one were shed. This one was retained within the body for a considerable length of time.

Other parts of the reproductive system were also visible, namely: (1) an ovary (Fig. 1, ov.) directly in front of the mouth; (2) long branching yolk glands, and (3) testes. The two latter showed but slightly until after the eggs were shed.

The two well-defined flame cells could be recognized in the tail region, one being just back of the hindermost ovum on each side.

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CELLULAR ACTIVITIES CONNECTED WITH SHEDDING OF LEAVES

Lee (Annals of Botany, January, 1911) gives the results of studies upon nearly fifty species of common Dicotyledons in respect